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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN G. PETERSEN

Appeal 2017-005700
Reexamination Control 90/013,550
Patent No. US 7,914,167 B2
Technology Center 3900

Before MARC S. HOFF, STEPHEN C. SIU, and ERIC B. CHEN
Administrative Patent Judges.

HOFF, *Administrative Patent Judge.*

DECISION ON APPEAL
STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from the rejection of claims 21–37 and 39.¹ Claims 1–9, 11, 13–20, and 38 are confirmed in the present proceeding. We have jurisdiction under 35 U.S.C. §§ 134(b) and 306.

We affirm.

The '167 patent issued to Petersen on March 29, 2011, and is assigned to 3M Innovative Properties Company. The '167 patent is a surface modifying apparatus, such as a non-motorized or motorized sanding tool.

¹ Claims 1–9, 11, 13–20, and 38 stand confirmed as patentable. Claims 10, 12, and 40 have been cancelled.

An illumination system provides an intensity and incidence angle on the working surface that facilitates visual inspection of defects and blemishes on the surface being modified. *See* Abstract.

Claim 21 illustrates the claims on appeal:

21. A surface sanding apparatus comprising:

a housing assembly including a major surface attachable to a surface sanding abrasive article; and

a source of illumination coupled to the housing assembly and operable for projecting a beam of light to an area to be illuminated on a working surface adjacent at least a portion of a periphery of the housing assembly with sufficient intensity and at a generally consistent and shallow angle thereby creating shadows, by defects located at and below the surface to be sanded, that are visually discernable,

wherein the housing assembly includes: a rotary portion defining a major surface to be connected to a surface sanding article, a stationary portion, a handle is pivotally connected to the stationary portion for pulling the housing assembly over a working surface, and a source of motive power on the stationary portion for driving the rotary portion; wherein the source of illumination is coupled to the stationary portion to project the beam to the area adjacent the periphery of the rotary portion.

The Examiner relies upon the following prior art in rejecting the claims on appeal:

| | | |
|----------|----------------|---------------|
| List | US 2,641,721 | June 9, 1953 |
| Matechuk | US 5,239,783 | Aug. 31, 1993 |
| Hall | US 5,250,139 | Oct. 5, 1993 |
| Guertler | GB 2 429 181 A | Aug. 19, 2005 |

Throughout this Decision, we refer to Appellant's Appeal Brief ("App. Br.," filed Oct. 11, 2016), the Reply Brief ("Reply Br.," filed Dec. 2,

2016) and the Examiner's Answer ("Ans.," filed Nov. 14, 2016) for their respective details.

REJECTIONS

Claims 21, 23, 28–36, and 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over List and Matechuk ("First Ground of Rejection").

Claims 21, 23–25, 28–37,² and 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over List, Matechuk, and Hall ("Second Ground of Rejection").

Claims 26 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over List, Matechuk, Hall, and Guertler ("Third Ground of Rejection").

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over List and Matechuk ("Fourth Ground of Rejection").

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over List, Matechuk, and Hall ("Fifth Ground of Rejection").

ISSUES

Appellant's arguments present us with the following issues:

1. Does the combination of List, Matechuk, and Hall teach or fairly suggest a source of illumination projecting a beam of light at a generally

² The Statement of Rejection in the Examiner's Answer includes claim 37 in this ground of rejection. Ans. 9. Claim 37 was omitted from the statement of claims rejected in the Appeal Brief.

consistent and shallow angle thereby creating shadows that are visually discernable?

2. Does the combination of List, Matechuk, and Hall teach or fairly suggest coupling the source of illumination to the stationary portion of the housing assembly?

3. Does the combination of List, Matechuk, and Hall teach or fairly suggest a source of illumination in close proximity to and at a fixed height relative to the major surface?

PRINCIPLES OF LAW

In *KSR v. Teleflex*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” and discussed circumstances in which a patent might be determined to be obvious. In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 12 (1966) (emphasis added)), and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at 416. The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary

skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 417. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

The determination of obviousness must consider, *inter alia*, whether a person of ordinary skill in the art would have been motivated to combine the prior art to achieve the claimed invention and whether there would have been a reasonable expectation of success in doing so. *Brown & Williamson Tobacco Corp. v. Philip Morris, Inc.*, 229 F.3d 1120, 1124 (Fed. Cir. 2000). *Medichem S.A. v. Rolabo S.L.*, 437 F.3d 1157, 1164 (Fed. Cir. 2006). Where the teachings of two or more prior art references conflict, the Examiner must weigh the power of each reference to suggest solutions to one of ordinary skill in the art, considering the degree to which one reference might accurately discredit another. *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991). If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984). Further, our reviewing court has held that “[a] reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994); *Para-Ordnance Mfg. v. SGS Importers Int’l*, 73 F.3d 1085, 1090 (Fed. Cir. 1995).

In sustaining a multiple reference rejection under 35 U.S.C. § 103(a), the Board may rely on less than the total amount of evidence relied on by the Examiner without designating it as a new ground of rejection. *In re Bush*, 296 F.2d 491, 496 (CCPA 1961); *In re Boyer*, 363 F.2d 455, 458 n.2 (CCPA 1966).

ANALYSIS

SECOND GROUND OF REJECTION, CLAIMS 21, 23–25, 28–37, AND 39 OVER LIST, MATECHUK, AND HALL

We are not persuaded by Patent Owner’s various arguments against the propriety of the Examiner’s rejection.

Patent Owner’s argument that Hall does not provide guidance concerning positioning of a light on an apparatus that includes stationary and movable components is not persuasive. *See* App. Br. 8. The Examiner looks to Matechuk, rather than Hall, for a teaching concerning such positioning.

Patent Owner’s argument that the combination of List and Matechuk would not motivate the skilled artisan to relocate the light from Matechuk’s shaft to its sanding head is not germane to the Examiner’s rejection. *See* App. Br. 8; Ans. 7. The Examiner’s Answer does not propose such a modification, and in any case, the test of obviousness is what the combined disclosures of List, Matechuk, and Hall would have suggested to the skilled artisan, rather than what would result from the mere bodily incorporation of an element from one reference into another reference.

With respect to Hall, we agree with the Examiner that Hall teaches the use of a light source at a shallow angle in order to create shadows made by visually discernible surface imperfections. *See* Ans. 22. Patent Owner is correct that Hall, having been introduced, must be relied upon for all it teaches. *See* Reply Br. 4. We do not agree with Patent Owner's implication that a skilled artisan reading Hall would be discouraged from following the path pursued by the present invention. *See* App. Br. 8–9. We find that Hall teaches that mounting a light at differing heights or differing angles of declination will produce qualitatively different shadows. *See* Hall col. 4:4–9. Hall further teaches that the skilled artisan may wish to select the appropriate light height and/or declination angle depending on the type of surface to be worked. *See* Hall col. 4:10–21. We, therefore, agree with the Examiner that modifying List and Matechuk in view of the teachings of Hall, to include a source of illumination at a generally consistent and shallow angle thereby creating visually discernable shadows, would have amounted to no more than the combination of familiar elements according to known methods, yielding predictable results. *See* Ans. 5, 22; *See KSR*, 550 U.S. at 416.

We conclude that the Examiner did not err in combining List, Matechuk, and Hall to achieve the invention under appeal. We sustain the § 103(a) rejection of representative claim 21, as well as claims 23–25, 28–37, and 39 not argued separately.

FIFTH GROUND OF REJECTION, CLAIM 22 OVER LIST, MATECHUK, AND HALL

We are not persuaded by Patent Owner's argument that the combination of List, Matechuk, and Hall fails to teach a source of

illumination at a fixed height. *See* App. Br. 13–14. Rather, we agree with the Examiner that List teaches a source of illumination in close proximity at a fixed height relative to the major surface. Ans. 5; *see* List Fig. 1. We, therefore, sustain the Examiner’s § 103(a) rejection of claim 22 over List, Matechuk, and Hall.

THIRD GROUND OF REJECTION, CLAIMS 26 AND 27 OVER LIST, MATECHUK,
HALL, AND GUERTLER

Patent Owner relies on the arguments made with respect to the Second Ground of Rejection, asserting that “the disclosures of Guertler do not overcome the above-discussed deficiencies in the ground of rejection based on List, Matechuk[,] and Hall.” App. Br. 10. Because we do not agree with Patent Owner’s argument that such deficiencies arise, we sustain the § 103(a) rejections of claims 26 and 27 for the same reasons expressed *supra*, with respect to the rejection of independent claim 21.

OTHER REJECTIONS

Because our decision is dispositive regarding unpatentability of all appealed claims, we need not reach the merits of the Examiner’s decision to also reject the appealed claims over the First Ground of Rejection and Fourth Ground of Rejection, other than as incorporated by the Examiner into the grounds of rejection that include the Hall reference. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) (approving ITC’s determination based on a single dispositive issue, and not reaching other issues not decided by the lower tribunal).

CONCLUSIONS

1. The combination of List, Matechuk, and Hall fairly suggests a source of illumination projecting a beam of light at a generally consistent and shallow angle thereby creating shadows that are visually discernable.

2. The combination of List, Matechuk, and Hall fairly suggests coupling the source of illumination to the stationary portion of the housing assembly.

3. The combination of List, Matechuk, and Hall teaches a source of illumination in close proximity to and at a fixed height relative to the major surface.

ORDER

The Examiner's decision to reject claims 21–37 and 39 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

Appeal 2017-005700
Reexamination Control 90/013,550
Patent No. 7,914,167 B2

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